

Institute for Advanced Development Studies



Development Research Working Paper Series

No. 19/2009

The Global Financial Crisis: An Update on the Effects on Bolivia

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December 2009

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Global Financial Crisis Discussion Series Paper

Bolivia¹

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December 2009

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¹ This study is part of a wider research project coordinated by the Overseas Development Institute (ODI) London and supported by the UK Department for International Development (DFID) and the Swedish International Development Agency (SIDA), but it does not necessarily reflect their views.

Abstract

The GFC has had a negative effect on the Bolivian economy. The outbreak of the GFC has caused a drop in export commodity prices such as mining and hydrocarbons, and a reduction in remittances. Bolivia however, was in a relatively good position to deal with the negative effects of the GFC. The country has experienced in recent years an important commodity price boom, which significantly increased external revenues, public and private incomes and consumption levels. Although the GFC has had a mild effect on the Bolivian economy so far, there are important structural factors that could put at risk the long term sustainability of policies and of the macroeconomic equilibriums. Among these factors are: i) a low investment rates, which could risk growth prospects and employment creation; ii) a large dependency of Bolivia fiscal sector on the hydrocarbon rent, which makes the long term sustainability of macroeconomic policies and of the current economic situation questionable; iii) the lack of a favourable investment climate required to increase growth and employment, which depends among other factors of the rule of law, property rights, judicial security, clearer and more stable rules of the game, macroeconomic stability, etc. iv) lack of a clearer strategy in relation to the country external insertion is also necessary. Access to larger markets, with higher incomes and purchasing power, is necessary to promote sustainable growth and employment creation, and to reduce the vulnerability of the Bolivian economy to shocks. Trade agreements with the USA, European Union and other regions of the world are necessary to promote investment, growth and employment creation.

1. Introduction

The global financial crisis has had an adverse effect on the Bolivian economy through external shocks that have transmitted into the economy by means of several channels and mechanisms. Commodity export prices have reduced significantly, causing a drop in export incomes, fiscal revenues and economic activity. However, the Global Financial Crisis (GFC) has had a limited effect on the Bolivian economy so far. Since the outbreak of the GFC, Bolivia has managed to keep the macroeconomic equilibriums and a comfortable level of foreign exchange reserves. Inflation has been brought down from the high levels observed in 2007 and 2008. Bank deposits have steadily increased despite the very negative levels of the real interest rates. Bank lending increased as well albeit at a much slower pace. Growth rates dropped, but stood at positive levels. The Government has undertaken counter-cyclical policies in order to ameliorate the negative effects of the external shocks. Besides, commodity price drops have been only temporal, because they have tended to recover after the initial reduction took place. This occurred in the case of hydrocarbons and mining sectors. Although commodity prices have not returned to the pre-crisis levels, they are still very high if compared with the levels existing in 2004.

Despite the positive macroeconomic indicators that the Bolivian economy has exhibited during the GFC, there are significant structural factors which can put at risk the long term sustainability of the macroeconomic equilibriums, policies, growth and employment creation. Investment rates have remained at very low levels, and thus the future growth and employment creation capacity of the economy is questionable. The high uncertainty created by the political volatility and the radical changes that are being introduced by the government of President Morales in the functioning of the economy, have delayed investment decisions in key sectors of the economy. According to the government's plan, the State is thought to be the key player in the economy and take the leading role in investing in key sectors of the economy and in the creation of employment. However, this Plan has not materialized yet in practice. Besides, the Bolivian economy has become more dependent on the hydrocarbon sector as a source of fiscal and external revenues. Thus a potential adverse shock to this sector could create significant macroeconomic disequilibrium in the future.

Furthermore, the real exchange rate has appreciated undermining the competitiveness on the tradable sector.

This paper analyses the behaviour of the Bolivian economy before and after the outbreak of the GFC.

Section 2 analyses in detail the type of shocks that have hit the Bolivian economy with the outbreak of the GFC and the magnitude and intensity of those shocks. The shocks identified are: export prices, quantity exported, remittances, aid and capital flows.

Section 3 analyses the channels and transmission mechanisms through which the global crisis have spread into the different sectors of the economy. This section analyzes the sectoral effects of shocks, in the fiscal, monetary and financial intermediation, inflation and exchange rate, fiscal sector, saving-investment balance and growth.

Section 4 discusses critically the policy responses implemented by the government in order to deal with the negative impacts of the GFC, in the macroeconomic and social areas. This section also discusses the structural factors that could put at risk the long term sustainability of the policies implemented by the government.

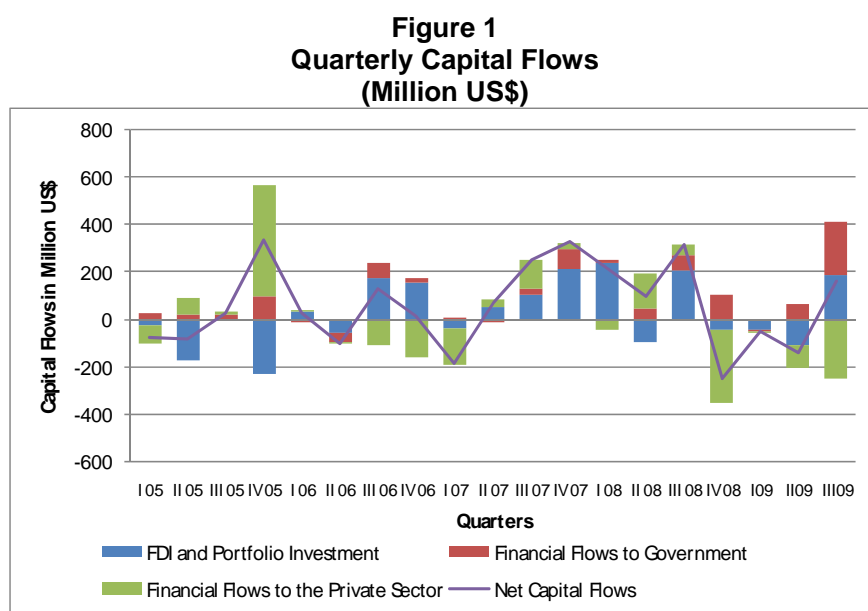
Section 5 presents some conclusions.

2. The effects of the global financial crisis on Bolivia: key transmission mechanisms

2.1 Capital flows

Capital flows have exhibited a less prominent role in Bolivia's external sector in recent years. Net capital flows including FDI, portfolio investment, private financial flows to banks and financial flows to the government, stood at an average of US\$ 107 million per quarter during the period that goes between the first quarter of 2005 and third quarter of 2008 and became negative in the last quarter of 2008 and first two quarters of 2009 as a result of the GFC (Figure 1).

There were net private capital outflows beginning from the fourth quarter of 2008, and this pattern continued during the first and second quarter of 2009. Foreign Direct investment (FDI) and portfolio investment flows reduced sharply, owing to political uncertainties and to a high volatility in the rules of the game which to a great extent negatively affected the investment climate.



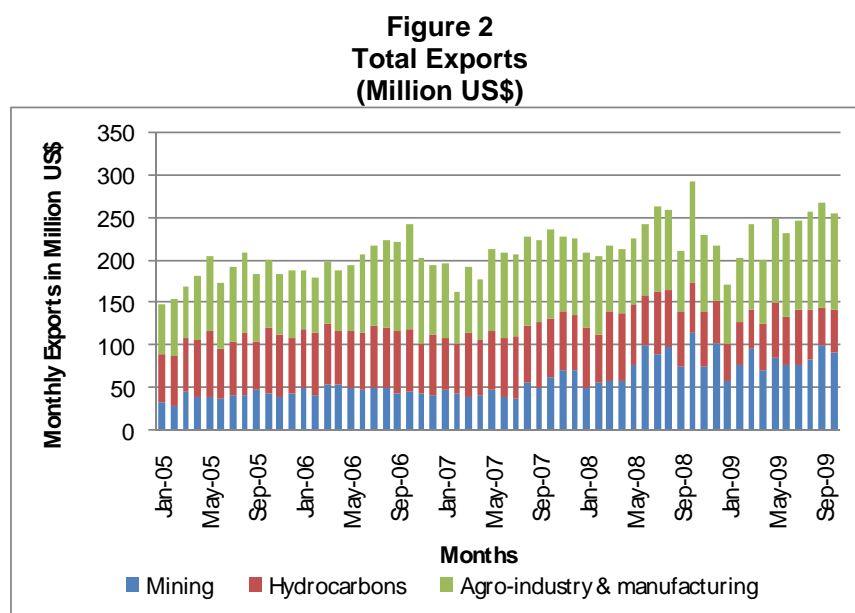
Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

Financial flows to the private sector also became negative starting from the last quarter of 2008 and continued to be negative during the first quarter of 2009 (Figure 10). During these two years, the Bolivian economy has generated a larger amount of savings, well in excess of the investment opportunities available. This in turn caused a drop of interest rates in the domestic financial market and an increase in financial capital outflows. This will be discussed in more detail later in this paper. Finally, financial flows to the public sector were consistently positive during the period 2006-2009, despite the large surpluses exhibited by the fiscal balance during that period.

2.2 Trade

Exports values

In the second half of 2008, the GFC brought about lower export prices and quantities, which in turn resulted in reduced export values. In 2008, exports had exhibited a continuous upward trend, attaining in July 2008 its historically highest level of US\$ 263 million (Figure 2). During the second half of that year export values went down, and in January 2009 they reached a US\$ 172 million value. During 2009 however, export values tended to recover and in September 2009 they attained a US\$ 268 million level. Until October 2009, the average export value of 2009 is slightly higher than that of 2008, and it is expected that exports values in 2009 will be greater than in 2008.



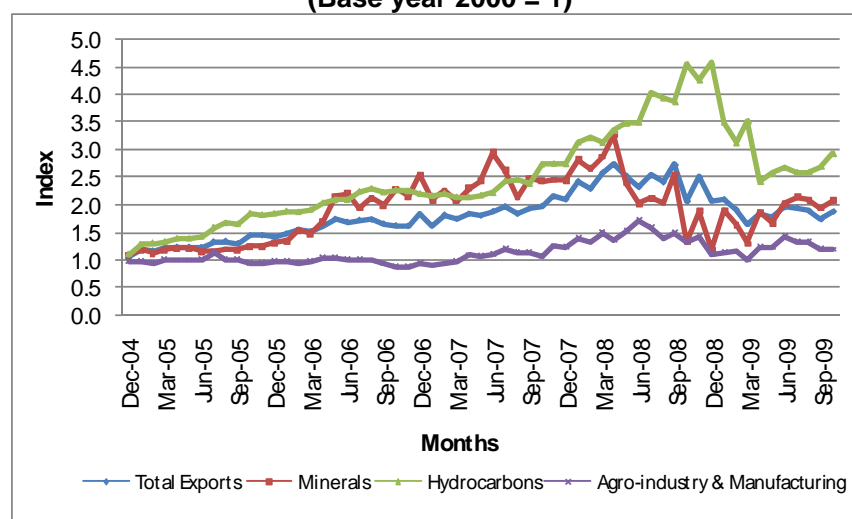
Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

The above mentioned tendencies in exports are the result of the trends observed in export prices and quantities. These trends are discussed in detail in the following sections.

Export prices

Bolivia's export products have experienced great volatility since the outbreak of the GFC. The export weighted average price experienced significant reductions during the fourth quarter of 2008 and first quarter of 2009, resulting in an accumulated drop of 39.16% for the period September 2008-March 2009 (Figure3 and Table 1).

Figure 3
Bolivia's Export Price Index
(Base year 2000 = 1)



Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

During the second quarter of 2009, export prices experienced a recovery, of about 18.5, owed to a boost in the world demand. During the third quarter of 2009 however, prices went down again, this time by 11.2%. Overall, Bolivia's export prices have reduced by 31.2% since September 2008, when the effects of the GFC begun to be felt in the Bolivian economy.

Table 1
Bolivia's export prices
(Percentage changes)

	Total Exports	Minerals	Hydrocarbons	Agro-Industry
Third Quarter 2008	17.37	26.57	10.59	-12.99
Fourth Quarter 2008	-23.87	-53.85	18.64	-26.97
First Quarter 2009	-20.67	10.13	-23.30	-8.54
Second Quarter 2009	18.53	55.51	-24.23	41.67
Third Quarter 2009	-11.23	-3.88	0.95	-14.95
Sep 08 - Mar 09	-39.60	-49.18	-9.01	-33.21
Sep 08 - Oct 09	-31.23	-18.53	-24.47	-21.07

Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

Export prices exhibited different patterns for each of Bolivia's exporting sectors. Mineral prices for instance, experienced a large drop during the last quarter of 2008 (by 53.8%); recovered thereafter, increasing by 10.1% during the first quarter of 2009 and by 55.5% during the second quarter of 2009; and exhibited a small reduction of 3.8% in the third quarter of 2009. Overall, Bolivia's mining export prices reduced by 18.5% during the period September 2008 and October 2009. The prices of zinc, Bolivia's main mining export, presented sharp and continuous reductions since 2006. During 2009 however, zinc prices partially recovered and reversed the downward trend previously presented. Tin prices on the other hand, exhibited sharp reductions since the second half of 2008. From the second quarter of 2009 onwards tin prices steadily recovered. However, as can be seen in Figure 4, mineral prices have not come back to the pre-crisis levels yet..

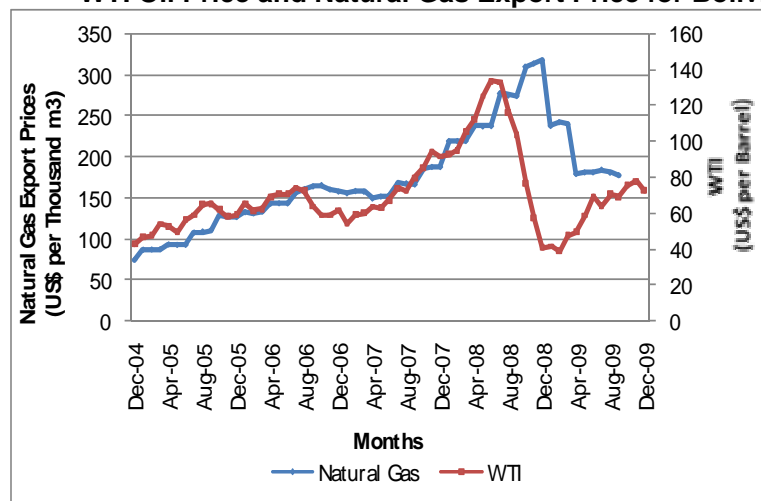
Figure 4
World Prices of Zinc and Tin
(US\$ per Ton)



Source: Taken from the London Metal Exchange website: (a) http://www.lme.co.uk/zinc_graphs.asp and (b) http://www.lme.co.uk/tin_graphs.asp

Hydrocarbons' exports on the other hand, experienced price reductions starting from the first quarter of 2009 (23.3% drop). This trend continued during the second quarter of that year, when prices dropped by 24.37%. The export price of Natural Gas, which is Bolivia's main export commodity, dropped—with a lag—after the price of oil went down since August 2008. Natural Gas prices however, are expected to pick up now that the price of oil has recovered again in international markets (Figure 3). If the price of oil stabilizes at US\$ 70 per barrel in 2010, the export price of natural gas for Bolivia would stabilize at around US\$ 200 per cubic meter.

Figure 5
WTI Oil Price and Natural Gas Export Price for Bolivia



Source: Own calculations based on data published in the Energy Information Administration's (EIA) website: <http://tonto.eia.doe.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D> and National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

Finally, agro-industry and manufacturing export products, a sector that benefitted the least from the export commodity price boom occurred in recent years, had presented price reductions starting

from the third quarter of 2008. This trend continued during the fourth quarter of 2008 and first quarter of 2009, when prices went down by 26.97% and 8.58% respectively. In the second quarter of 2009 however, agro-industry export prices exhibited a considerable recovery of 43.54%, which almost offset previous price drops.

There are two conclusions that can be got from the discussion above: first, although export prices in 2009 are lower than in 2008, as a result of the GFC, these levels are still much higher than those observed at the end of 2004; and second, during 2009 export prices have tended to recover after an initial reduction owed to the GFC. Commodity price increases in world markets, but have not come back to the pre-crisis levels yet.

Export Quantities

With the outbreak of the GFC, export values went down basically because of reduced prices. However, export quantities went down as well, contributing to this reduction (Table 2).

Table 2
Bolivia's Export Quantities
(Constant US\$ at prices of 2004)

	Total Exports	Minerals	Hydro-carbons	Agro-Industry
Jan-Sep 2008	2,049.1	668.7	622.4	757.9
Jan-Sep 2009	1,976.3	717.4	467.1	791.8
%change	-3.6	7.3	-24.9	4.5

Source: Own estimates based on data published in the National Institute of Statistics (INE): <http://www.ine.gov.bo:8082/comex/Main>

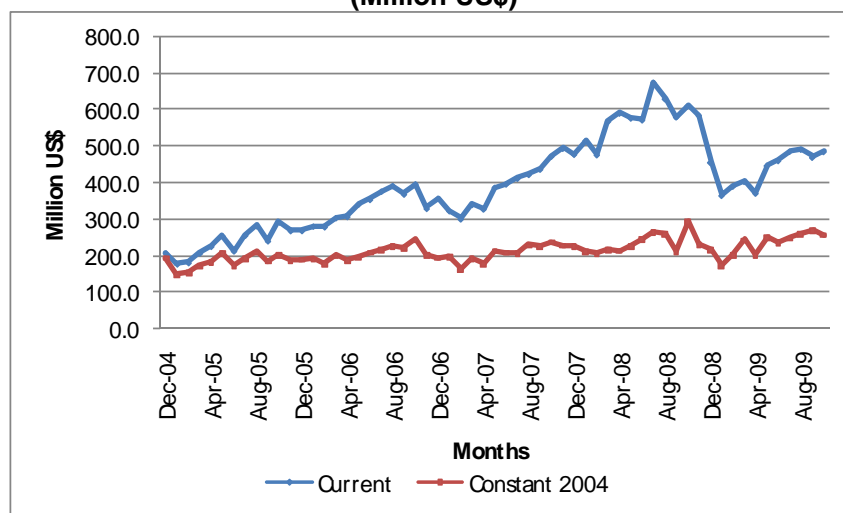
During the first three quarters of 2009, exported quantities dropped by 3.6%, due to a sharp contraction in hydrocarbon export volumes, which went down by 24.9%. This substantial reduction owed to the lower demand from Brazil, which also suffered the effects of the global crisis. Export quantities of natural gas dropped by 16.8%.

Conversely, mining export quantities increased by 7.3% in 2009, as a result of the recovery of the world demand for metals that took place during the first half of the year, which in turn fuelled higher activity levels in the sector. During 2009, there were significant export quantity increases in the case of silver (12.5%), lead (5.5%), tin (5.0%) and zinc (1.7%).

Finally, export quantities for the agro-industry and manufacturing sectors raised 4.5%, with significant reductions in the export volumes of wood products (25.7%), beverage (17.4%), and leather products (32.2%). Conversely, other export products exhibited large increases in volumes such as coffee (30.1%) sugar (16.4%), and Brazilian nuts (4.2%). Export quantities of soya beans and soya by-products, Bolivia's main non traditional export products, increased by 0.7%.

Figure 6 shows Bolivia's monthly exports valued at constant and current prices, evidencing that the high volatility of Bolivia's export revenues was primarily caused by price movements, while quantities exhibited a much more stable behaviour.

Figure 6
Quarterly Exports in Current and Constant Prices of 2000
(Million US\$)

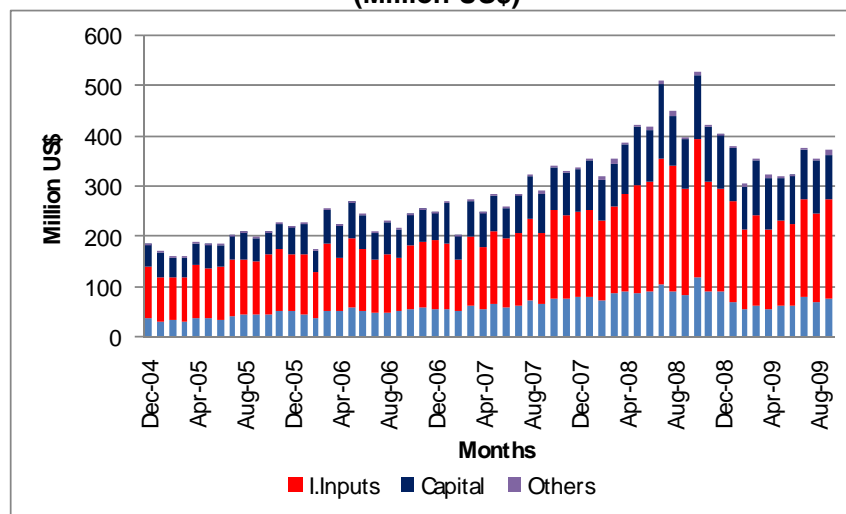


Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

Imports

Previous to the GFC, The large availability of external resources has encouraged larger amounts of imports. Average monthly imports had gone up from US\$ 195 million in 2005 to US\$ 415.6 million in 2008, representing a 112% increase. With the GFC imports went down, and in the period January-September 2009 average monthly imports dropped to US\$ 347.2 million (Figure 7). In the last quarter of 2008 imports stood at US\$ 1,357.6 million. They dropped to US\$ 1,045.6 million in the first quarter and to US\$ 969.5 million in the second quarter of 2009. In the third quarter of 2009, imports increased to US\$ 1,110.1 million.

Figure 7
Monthly Imports
(Million US\$)



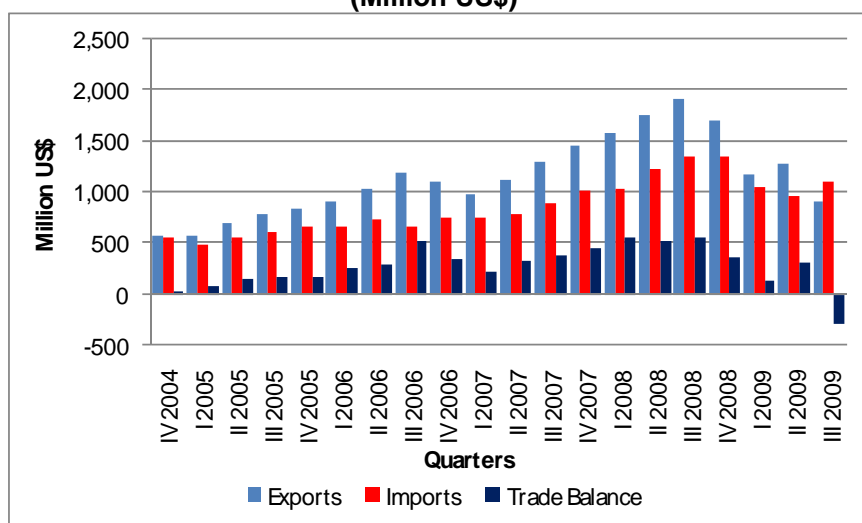
Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

Import increases are basically explained by the income effect brought about by the much larger availability of foreign revenues and by the appreciation of the exchange rate. Besides, Bolivia has become in recent years more dependent on imported fuels to satisfy its local demand, especially of imported diesel oil, because of the country's hydrocarbon composition being more intensive in natural gas with relatively minor quantities of liquids, of which the economy is technologically more dependant. Besides, domestic demand skyrocketed in recent years not only due to higher domestic demand but also because subsidized domestic prices have promoted the smuggling of fuel products to neighbouring countries. Thus, the increase in oil prices occurred in recent years in world markets has resulted in much higher import costs to the country. Imports of fuels rose from US\$ 121.8 million in 2004 to US\$ 530.8 million in 2008, representing a 336% increase. During the same period, total imports went up by 170%. With the GFC, total imports reduced by 16% in 2009, while imports of fuels went down by 24.1% partly because of the lower price of oil in the international market.

Trade Balance

The GFC has had an effect on the trade balance as well. Due to the larger export revenues received in recent years, the Bolivian economy had exhibited a continuous trade surplus averaging US\$ 1.6 billion a year during the period 2006-2008. In 2008 the trade surplus was as high as US\$ 1.9 billion. The GFC brought about a drop in exports and imports. Since exports reduced proportionally more than imports did, the trade surplus went down from US\$ 5,264 million in the first three quarters of 2008 to US\$ 3,376 million in similar period of 2009 (Figure 8).

Figure 8
Quarterly Exports, Imports and Trade Balance
(Million US\$)



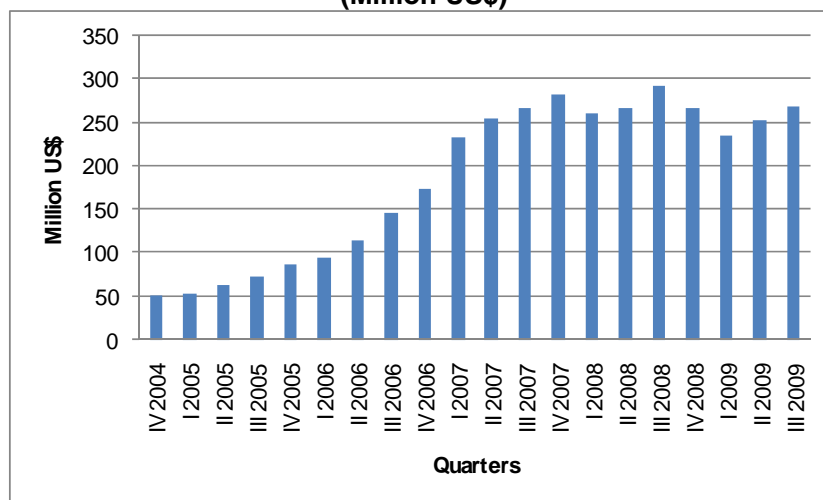
Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo:8082/comex/Main>

2.3 Remittances

Remittances have become in recent years an important source of foreign exchange to the country. Besides, they have also become an important source of income for households. Remittances increased from \$ 170 millions in 2004 to more than \$1 billion in 2007 and 2008 (Figure 9). With the outbreak of the GFC, remittances went down by 8.5% in the last quarter of 2008 and by 11.9% in

first quarter of 2009, owed to higher unemployment rates observed in developed countries. Remittances partially recovered in the second quarter of 2009 by 7.4%.

Figure 9
Quarterly Remittances
(Million US\$)

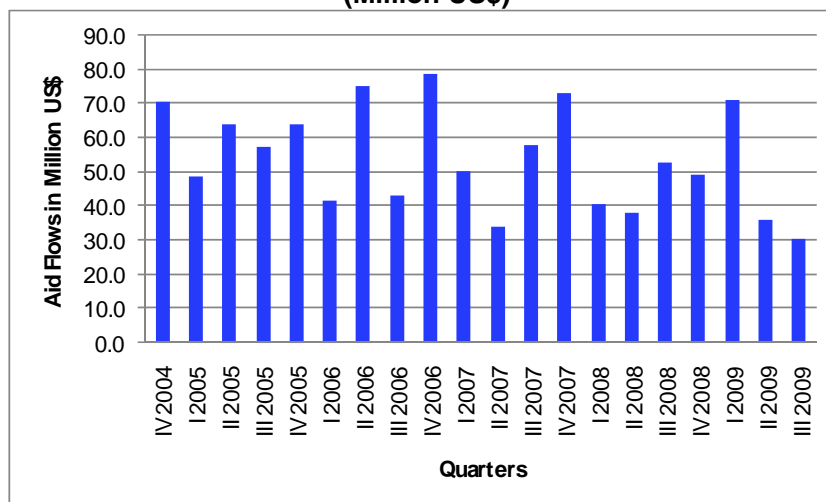


Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

2.4 Aid Flows

Previous to the export commodity boom, Bolivia depended heavily on aid flows in order to finance the budget and as a source of scarce foreign exchange. In 2005, the quarterly average aid flows received by the country was US\$ 58.5 million. As a result of the enlarged fiscal revenues resulting from the hydrocarbon rent, aid flows went down to a quarterly average of US\$ 45.5 million in 2008. With the outbreak of the crisis aid flows increased in the first quarter of 2009 to US\$ 71.3 million. In the second and third quarters of 2009 however, aid flows went down again to US\$ 36.2 million and to US\$ 30.7 million respectively.

Figure 10
Quarterly Aid Flows
(Million US\$)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

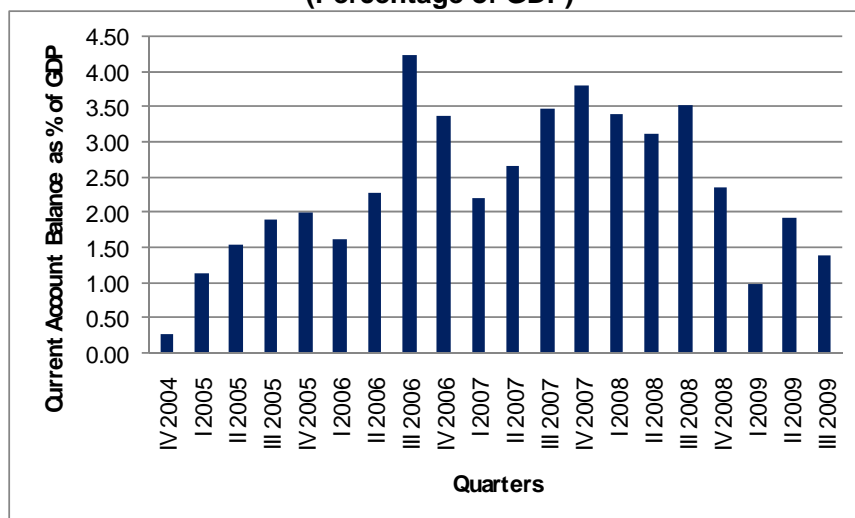
2.5 Summary: Balance of Payments effects

The various shock witnessed owed to the GFC has had an impact on the country's external sector, and through it on the economy as a whole. This section summarizes these effects by analysing the trends followed by Bolivia's external accounts as a result of the shocks brought about by the GFC.

Current Account Balance

The pattern followed by the trade balance and remittances determined to a great extent the pattern followed by the current account balance of the balance of payments. The increased exports and remittances witnessed in recent years caused the current account balance to exhibit continuous and increasing surpluses, which went up from a quarterly average of US\$ 155.6 million (1.7% of GDP) in 2005 to US\$ 503.7 million (3.1% of GDP) in 2008 (Figure 11). In the last quarter of 2008, the current account balance dropped to US\$ 384.6 million (2.4% of GDP). During the first three quarters of 2009, the current account surplus stood at US\$ 259.0 million (1.4% of GDP).

Figure 11
Quarterly Current Account Balance
(Percentage of GDP)

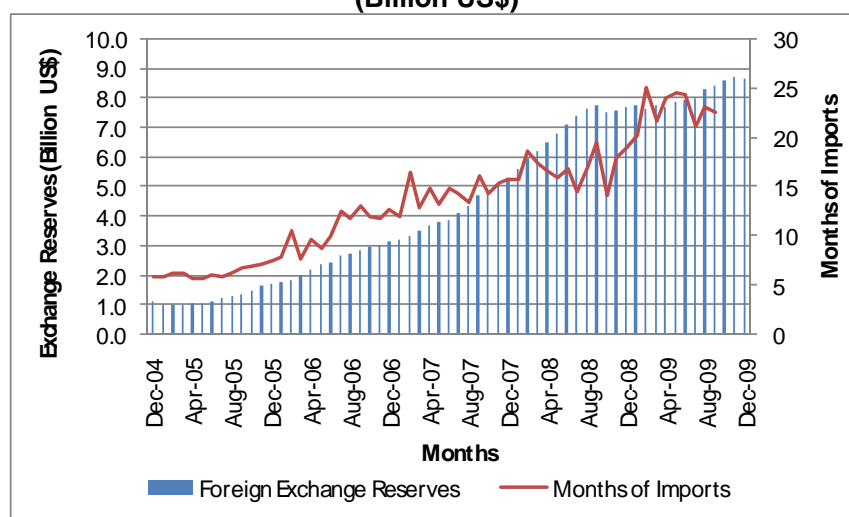


Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

Foreign Exchange Reserves

The continuous current account surpluses witnessed previous to the GFC brought about an impressive increase in the stock of foreign exchange reserves held by the Central Bank, which rose from US\$ 1.1 billion at the end of 2004 to US\$ 7.8 billion in September 2008 (Figure 12). With the outbreak of the crisis, this continuous upward trend temporally stopped. Reserve slightly went down in October 2008, fluctuating at around US\$ 7.7 billion until April 2009. Starting from May, exchange reserves have restarted their increasing trend and by mid December 2009 they reached a US\$ 8.6 billion level, equivalent to 25 months of imports.

Figure 12
Foreign Exchange Reserves
(Billion US\$)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: <http://www.bcb.gov.bo/index.php?q=estadisticas/semanales>

3. Growth and development effects

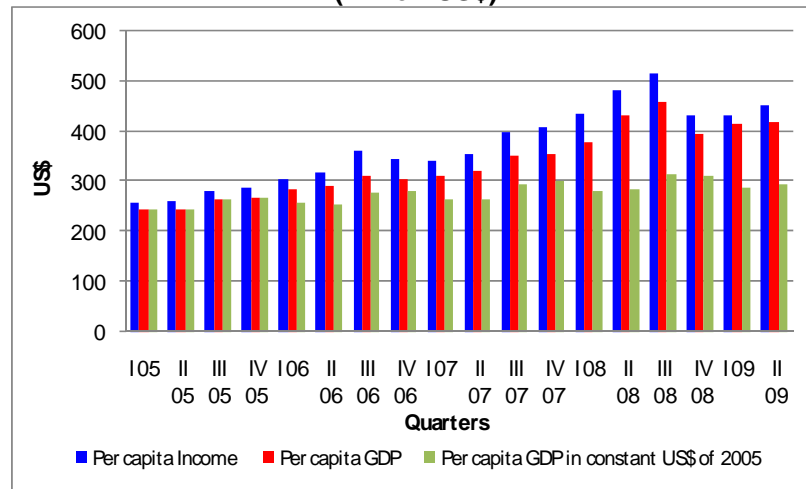
The much higher income levels attained in the pre crisis years, due to the favourable external conditions, has permitted the Bolivian economy to deal with the negative effects of the GFC with more success.

3.1 National level growth, investment and employment

Per capita Income and Per capita GDP

The very favourable external economic environment witnessed in the years previous to the GFC, had a positive income effect on the Bolivian economy. The positive shocks discussed above, e.g. higher export prices and increased remittances, caused the nominal per capita income to rise from US\$ 257.9 in the first quarter of 2005 to US\$ 517.5, representing a 100% increase. The bulk of this increase is explained by the boost in the nominal per capita GDP that went up from US\$ 246.3 to US\$ 314.3 over the same period, representing a 86.9% increase (Figure 13). The impressive increase in per capita GDP was basically a nominal phenomenon because, in real terms the per capita GDP went up by only 27.6% over the same period.

Figure 13
Per Capita Income and Per Capita GDP
(Billion US\$)



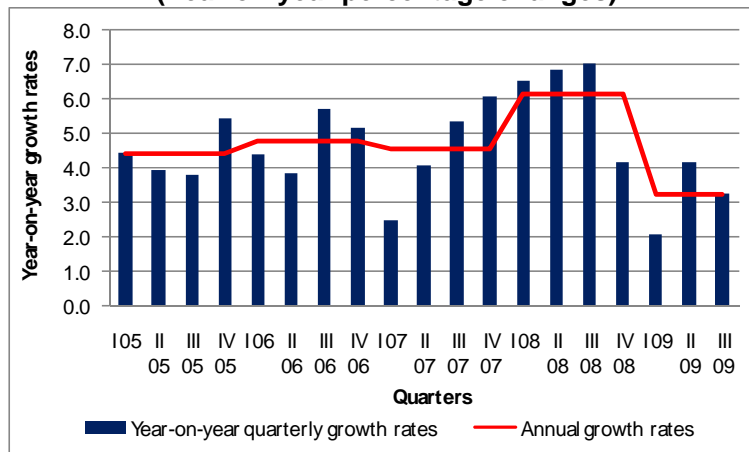
Source: Own calculations based on data published in the Central Bank of Bolivia's website: <http://www.bcb.gov.bo/index.php?q=estadisticas/semanales> and in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030201.HTM>

With the outbreak of the GFC, nominal per capita income and nominal per capita GDP reduced sharply, because of the lower prices for export products. However, despite these sharp reductions, the values of these two variables in 2009 were considerably higher than those observed in 2005.

GDP growth

GDP growth rates had recovered from the low rate levels exhibited at the beginning of the decade. Between 2005 and 2007, the economy grew at around 4.5% a year. In 2008 GDP growth went up to 6.3%. However, the negative effects of the GFC on growth had been already felt in the last quarter of 2008, when quarterly growth dropped to 4%, after a period in which the economy was growing at rates close to 7% i.e. during the first three quarter of that year. In 2009 GDP growth dropped further to 2.1% in the first quarter and to 4.16% in the second quarter (Figure 14).

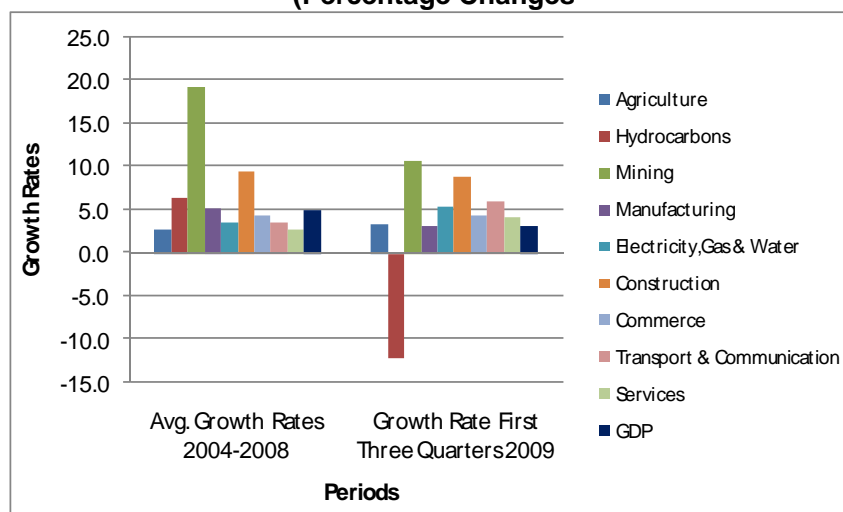
Figure 14
Quarterly and Average GDP Growth Rates
(Year-on-year percentage changes)



Source: Own calculations based on data published in the National Institute of Statistics' (INE) website: <http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030201.HTM>

The lower growth rates witnessed in 2009 were basically the result of the highly negative growth rate exhibited by the hydrocarbon sector (-13.7%), because of lower demand of natural gas coming from Brazil and Argentina. Growth however, was positively influenced by the significant recovery of the mining sector, as a result of export price increases occurred during 2009 in international markets previously discussed. Construction was another sector that presented a high growth rate during 2009, due to the boost in public investment and to larger investment in private residential construction (Figure 15).

Figure 15
GDP Growth Rates by Activity Sector
(Percentage Changes)

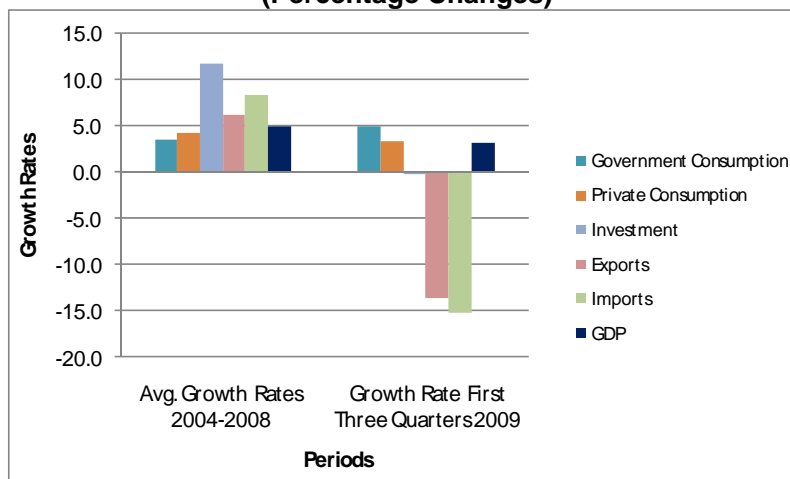


Source: Own calculations based on data published in the National Institute of Statistics' (INE) website:

<http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030201.HTM>

In the demand side, domestic absorption has been the main driver of economic growth in the first half of 2009. Private consumption, public consumption and investment grew respectively at rates of 3.61%, 4.38% and 4.45%. Exports, that had been a main driver of growth in recent years, exhibited a significant drop of 15.4%, due to the reduction of natural gas sale abroad. Imports on the other hand dropped by 15.73%, because domestic absorption was basically satisfied by domestically produced goods and services, as a result of the real depreciation of the exchange rate.

Figure 16
GDP Growth Rates by Activity Sector
(Percentage Changes)



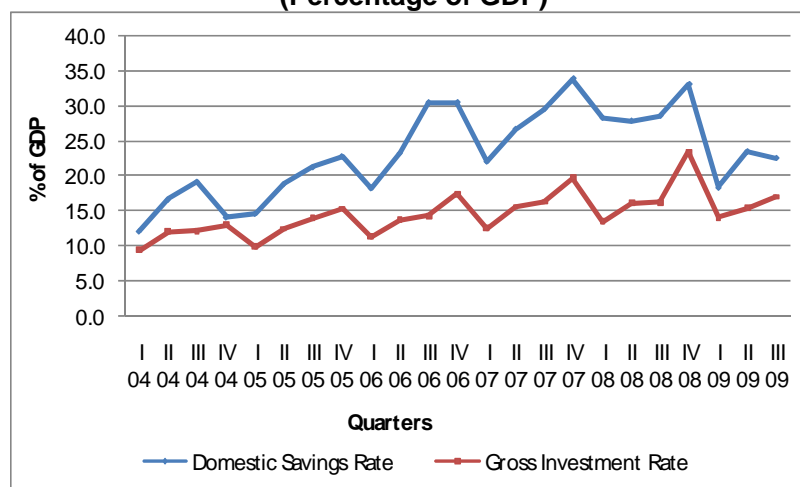
Source: Own calculations based on data published in the National Institute of Statistics' (INE) website:

<http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030301.HTM>

As a result of the considerable increase in current account surpluses of the balance of payments, domestic savings rose considerably, from an average of 15.5% of GDP in 2005 to 29.5% of GDP in 2008. With the outbreak of the GFC, current account surpluses tended to reduce in 2009 and thus domestic saving ratios went down as well, to an average of 19.3% of GDP in the first half of 2009 (Figure 17).

Despite the considerable increase in the availability of domestic savings, investment rates have remained at low levels. The average investment rate increased from 12.9% of GDP in 2005 to 17.3% of GDP in 2008. In the first half of 2009, the investment rate dropped to 14.8% of GDP. At present, the Bolivian economy is characterised by a surplus of domestic savings and a deficit of investment opportunities.

Figure 17
Quarterly Saving-Investment Balance
(Percentage of GDP)



Source: Own calculations based on data published in the National Institute of Statistics' (INE) website:

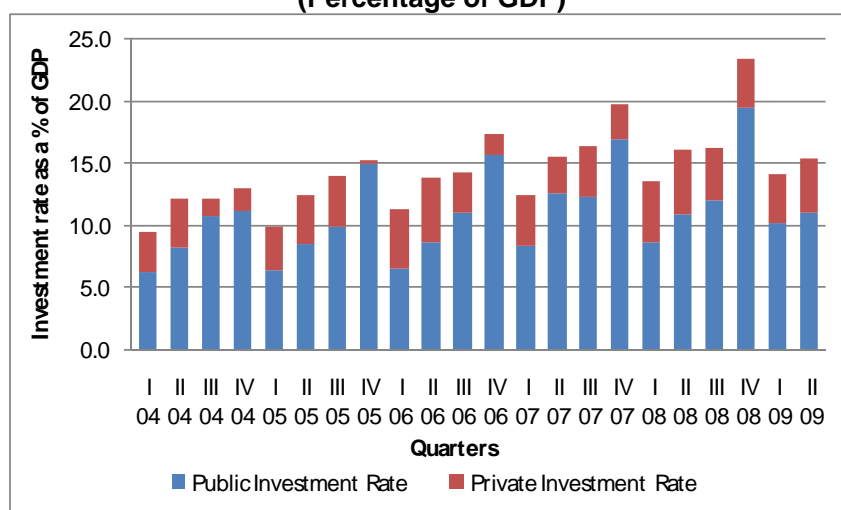
<http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030401.HTM>

and in the in the Central Bank of Bolivia's website:

http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

Besides, the share of the government in total investment has tended to increase over time (Figure 18). There are various factors that explain this trend. First, the government of Evo Morales, that took office at the beginning of 2006, assigns to the public sector a far more important role in the economy than previously; second, in the last four years, the public sector has disposed of far more resources to finance higher levels of public investment than in the past; and third, the political volatility and a deteriorated investment climate has discouraged private investors to invest in the country. Although public investment ratios have tended to increase, there are uncertainties about the efficiency of it, as there is not in place a system aimed at evaluating the contribution of public investment to the strategic development goals set by the country.

Figure 18
Public and Private Investment
(Percentage of GDP)



Source: Own calculations based on data published in the National Institute of Statistics' (INE) website:

<http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC01030401.HTM>

and in the in the Central Bank of Bolivia's website:

http://www.bcb.gov.bo/index.php?q=estadisticas/sector_externo

Current low investment rates are likely to impose a constraint on the future capacity of the economy to attain sustainable growth and to create good quality jobs.

3.2 Sectoral level effects

The crisis has affected differently the various sectors of the economy. However, not all the sectoral effects observed after the outbreak of the GFC can be totally imputed to the crisis itself. This section discusses the behaviour of key sectors of the Bolivian economy in response to the GFC and to other factors, such as the sectoral public policies, that that affected each of the sectors behaviour.

Hydrocarbons

The Hydrocarbon sector for instance had exhibited high positive growth rates until 2004, when the export volumes of natural gas to Brazil were increased to the levels established by the export contracts, i.e. 30 million cubic meters per day. Thereafter, growth rates reduced considerably and the hydrocarbon sector grew at an annual average rate of 6.5% between 2005 and 2008. In 2009 activity growth in the hydrocarbon sector became significantly negative (-12.18%). The reduced volumes imported from Brazil due to lower demand owed to GFC caused, basically explain this drop. Besides, the Nationalization policy implemented by President Morales' government has discouraged private companies to invest in the sector and thus hydrocarbon reserves have tended to decline. YPFB, the state oil company has not succeeded yet in replacing the investment flows previously brought in by private oil companies. The country's low investment capacity put into question its future capacity to satisfy not only export markets but also the domestic ones. Furthermore, as a result of the inelastic supply of hydrocarbons and the increases in the domestic demand of fuels overtime, Bolivia has had to import increasing quantities of fuels, such as diesel oil, gasoline and propane liquefied gas.

Mining

The mining sector has been in recent years one of the main drivers of economic activity and economic growth. The sector growth rate between 2005 and 2008 averaged 19.3%, the highest growth rates amongst all Bolivia's activity sectors. The sharp increase of metal prices in the world markets has encouraged activity in this sector that had remained depressed since the 1980s. Besides, there were two major mining investment projects that took place in the first half of the decade, which considerably increase the country's potential to export zinc, silver, and lead. With the GFC, mining export prices reduced temporarily, causing a drop in output in the last quarter of 2008. In 2009 however, prices partially recovered bringing about an increase in the sector's activity. Like in the hydrocarbon sector, the mining activity is likely to be affected in the future by the uncertainty about public sector policies in regards to the role that private companies are going to play in this sector.

Agro-industry

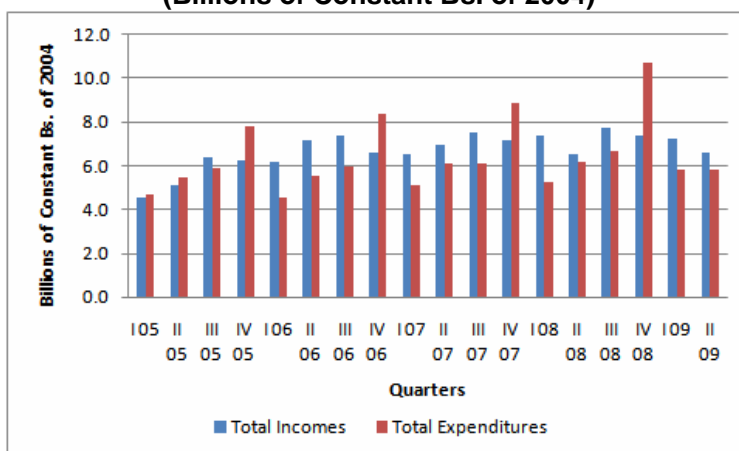
The agricultural and manufacturing sectors have exhibited comparatively much more modest behaviour in recent years, when compared with those observed in the hydrocarbons and mining sector. Agriculture grew at an annual average growth rate of 2.82%, between 2005 and 2008, while manufacturing grew at an annual average growth rate of 5.19% over the same period. In 2009 these two sectors exhibited growth rates of 3.35% and 3.14% respectively. Agro-industrial and manufacturing exporting activities have been affected by the reduction of demand in export markets owed to the GFC. Besides, Bolivia has lost its preferential access to the US market for manufacturing products, under the Andean Trade Promotion and Drug Eradication Act (ATPDEA). This has caused export and job losses in the sector. Furthermore, the Bolivian government opposes free trade agreements with the United States and European Union, where domestic producers could benefit from access to larger markets with greater purchasing power.

3.3 Fiscal effects

As a result of higher natural gas prices and the creation of the Direct Tax on Hydrocarbons (IDH) in 2005, fiscal revenues grew strongly. The General Government's total revenues increase by 57.8% in real terms between 2004 and 2008. During the same period, expenditures rose by 29.2% in real terms. With the outbreak of the GFC, revenues tended to decrease, because of reduced prices of oil and natural gas that brought down fiscal revenues dependent of the hydrocarbon rent. In the

first half of 2009, total revenues slightly lowered in real terms from the amount received in similar period in 2008. Expenditure on the other hand increased in real terms by 2% in the first half of 2009 (Figure 19). Expenditures however, as can be seen in Figure 35, have exhibited a clear upward trend since 2004.

Figure 19
Quarterly General Government's
Total Incomes, Expenditures and Balance
(Billions of Constant Bs. of 2004)

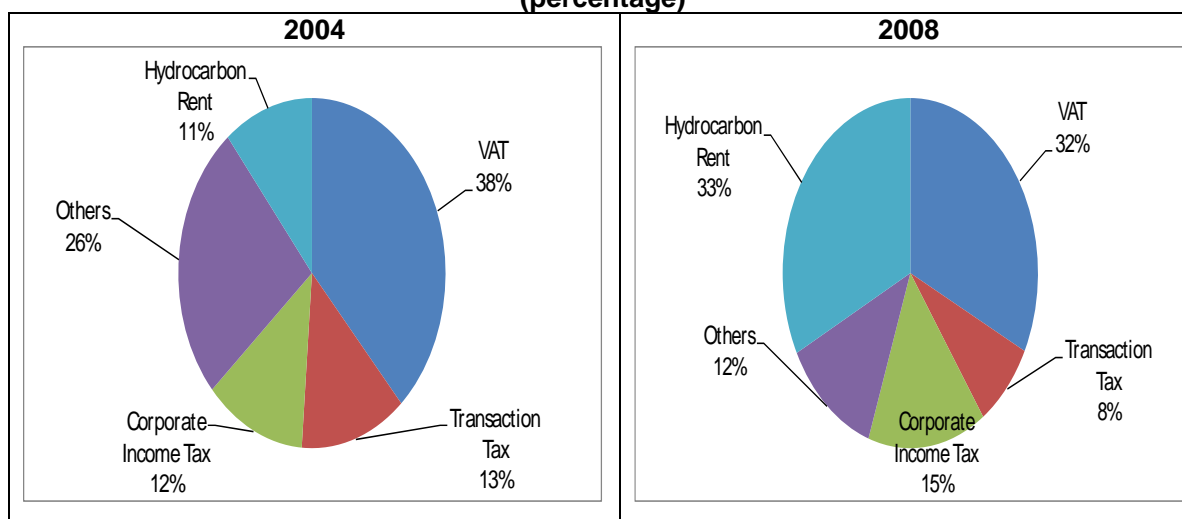


Source: Own calculations based on data published in the Central Bank of Bolivia's website:

http://www.bcb.gov.bo/index.php?q=estadisticas/sector_fiscal

The significant increase in government incomes observed in recent years is to a great extent the result of a large increase occurred in hydrocarbon tax revenues. The share of hydrocarbon taxes in total tax revenues increased from 11% in 2004 to 33% in 2008. Thus, the fiscal budget has become more dependent on the Hydrocarbon Rent (Figure 20).

Figure 20
Tax Revenues Structure
(percentage)



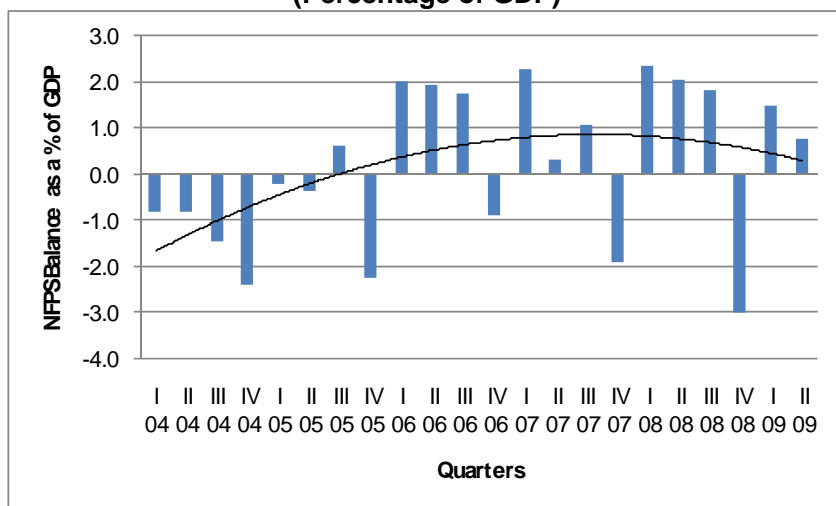
Source: Own calculations base don data published in the National Tax Service's website:

<http://www.impuestos.gov.bo/Institucional/Cifras.php>

Other taxes include the Corporate Income Taxes, Excise Taxes, Complementary Regime to the VAT and Taxes on Financial Transactions. The Hydrocarbon Rent comprises the Specific Tax on Hydrocarbons (IEHD) and the Direct Tax on Hydrocarbons (IDH)

Large fiscal revenues had permitted the government to revert a situation of chronic fiscal deficits which were customary during the first half of the decade. Since the outbreak of the GFC, and the reduction in hydrocarbon export revenues, the fiscal balance surplus has tended to reduce (Figure 21). In the last quarter of 2008, the fiscal balance presented a deficit of 3.0% of GDP, which was larger than the 1.9% of GDP deficit observed in similar period in 2007. Likewise, during the first and second quarters of 2009, the fiscal balance presented a surplus of 1.48 and 0.77 % of GDP, which was smaller than the 2.36 and 2.07 % of GDP surplus observed in the first and second quarter of 2008.

Figure 21
Quarterly Non Financial Public Sector Balance
(Percentage of GDP)



Source: Own calculations based on data published in the in the Central Bank of Bolivia's website:

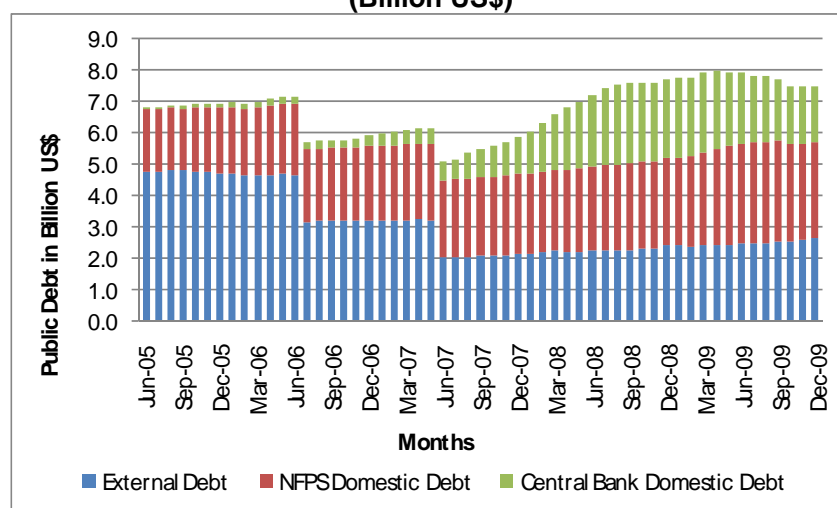
http://www.bcb.gov.bo/index.php?q=estadisticas/sector_fiscal

Public Debt

Bolivia has benefited in recent years from various debt relief initiatives which have reduced considerably the debt burden. This factor has placed the country in a much better position to conduct countercyclical policies in order to offset the negative effects of the crisis, and to increase the share of social expenditure in the budget. The largest debts reductions occurred in July 2006 and June 2007, which brought down Bolivia's external debt to US\$ 2.0 billion. At that date, total public debt (domestic and external, including the Central Bank's) totalled US\$ 5 billion. Thereafter, the total public debt rose to US\$ 8 billion in April 2009.

Despite the significant public sector balance surpluses witnessed in recent years, the public debt has continued increasing, not only due to the sterilization policy conducted by the Central Bank, which had a monetary objective, but also due to fiscal reasons (Figure 22). The non financial public sector debt (domestic and external) rose from US\$ 4.5 billion in June 2007 to US\$ 5.7 billion in October 2009.

Figure 22
Total Public Debt
(Billion US\$)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: <http://www.bcb.gov.bo/index.php?q=estadisticas/semanales>

3.4 Poverty and distributional effects

Bolivia is one of the poorest countries in Latin America and one of the most unequal. In 2007, poverty incidence was as high as 60.1% and extreme poverty incidence was 37.7%. The Gini coefficient for that year was 0.56. The rate of unemployment in 2007 reached 7.7% of the labour force.

Although there are no figures available for more recent years, the external commodity boom and the increased remittances enjoyed by the country in the years previous to the GFC are expected to have had a positive effect in terms of poverty reduction and income inequality. The recovery of the mining sector, due to favourable external market conditions, has brought about a boost in the sectors' activity with a positive effect on employment creation and income opportunities in the western part of the country where poverty is deeply entrenched. Besides, the increase in remittances has complemented incomes to households belonging to the poorest segments of the population. Furthermore, the large availability of resources to the public sector resulting from the hydrocarbon rent permitted the government the creation of transfers and other social programmes that benefitted the poorest segments of the society. Thus, the GFC has found Bolivia in a relatively good position to deal with the negative shocks owed to the crisis.

The GFC has caused a decrease in mining export prices, and a reduction in remittances, bringing about a reduction in the population incomes and employment. However, these reductions proved to be only temporal and limited in scope. The fall in metal export prices witnessed at the end of 2008 caused a drop in activity and employment in the mining sector. However, in 2009 this trend tended to reverse and activity growth and employment tended to recover. The fall in remittances was also limited. Although household incomes reduced as a result of the crisis in 2009, their levels are considerably higher than the income levels existing in 2005, previous to the export boom.

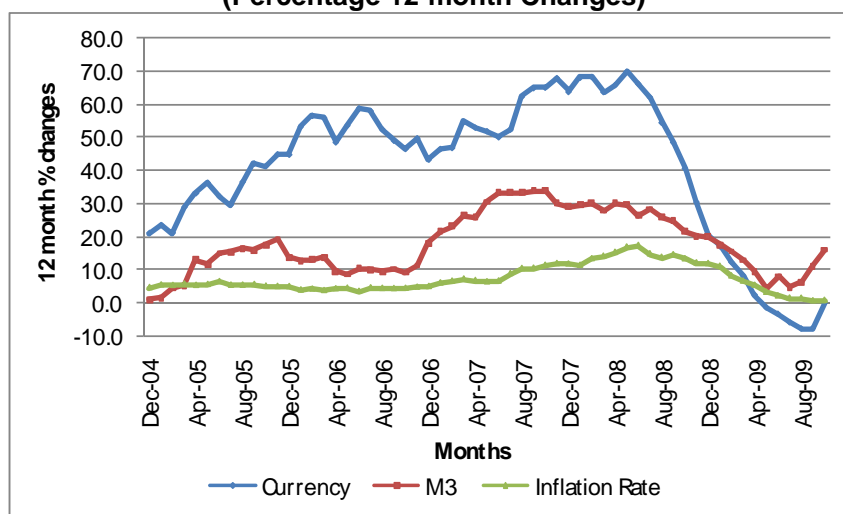
4. Policy responses: a critical review

4.1 Macro-economic policies to manage the impact of the crisis

Monetary policy and inflation

The outbreak of the GFC has somehow simplified the macroeconomic management for the Bolivian policymakers. Previous to the GFC, the government was having troubles managing the macroeconomic effects of the export commodity boom. The increased exchange revenues caused large increases in exchange reserves and consequently in the monetary aggregates, which in turn brought about an increase in the inflation rate and a greater exchange rate appreciation. In May 2008, previous to the GFC, the 12-month growth rate for currency was as high as 69.8% and for M3 was 29.7%. As a result of these high growth rates in money, the 12 month inflation rate in October 2008 stood at 17.3% (Figure 23). Although this rate was significantly high by all standards, it was relatively low considering the high growth rates exhibited by the monetary aggregates at that time. One factor that explains why such high growth rates of money aggregates have not caused higher rates of inflation is the fact that money demand in the Bolivian economy has considerably increased in recent years. The velocity of money, measured by the ratio between nominal GDP and any given money aggregate, went down from 20.6 in February 2005 to 7.8 in October 2009 when currency is taken as the monetary aggregate.

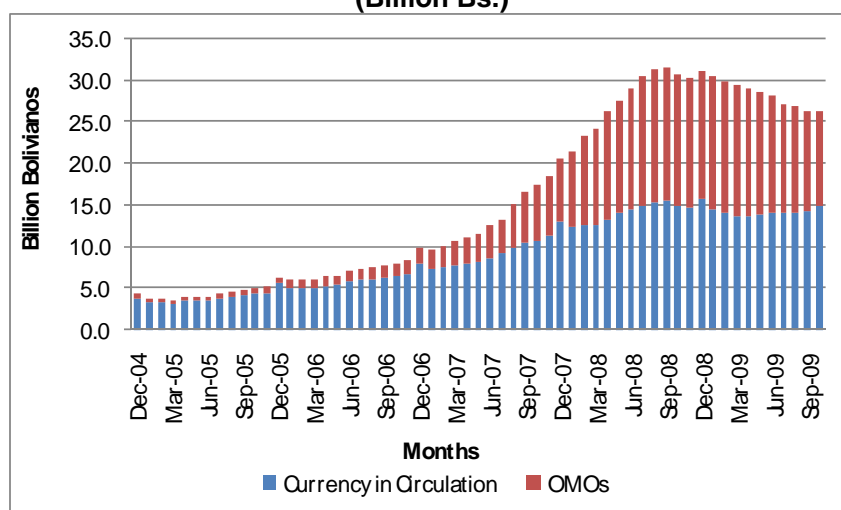
Figure 23
Inflation and Selected Monetary Aggregates Growth Rates
(Percentage 12-month Changes)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_fiscal

In order to reduce inflationary pressures, the Central Bank tried to sterilize excess liquidity from the economy, by issuing public bonds through Open Market Operations (OMOs). The stock of public bonds issued by the Central Bank through this means increased from Bs. 0.5 billion in December 2004 to Bs. 16.1 billion in September 2008, when inflation was still as high as 14.5% (Figure 24).

Figure 24
Currency and OMOs
(Billion Bs.)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: http://www.bcb.gov.bo/index.php?q=estadisticas/sector_fiscal

After the outbreak of the GFC, during the second half of 2008 and first half of 2009, growth for all monetary aggregates plummeted and even became negative in the case of currency, as a result of the much lower rates of growth exhibited by exchange reserves at that time. Besides, the GFC caused an increase in the expectative for an exchange rate depreciation, which further reduced the demand for domestic currency. In October 2009, the 12-month inflation rate reduced to only 0.8%. Besides the much lower growth rates of monetary aggregates there were other factors that explain the drop in inflation, such as the nominal devaluations implemented by trade-partner countries and the food-price falls witnessed in the international markets. The OMOs policy was also discontinued in October 2008, once inflation had been brought down. The stock of OMO originated public bonds reduced to Bs. 11.5 billion by October 2009.

In recent months, M3 growth rates have exhibited a recovery and by October 2009, this money aggregate was growing at an annual rate of 16%, due to the raise of deposits in the financial system. Inflation however has remained at very low levels.

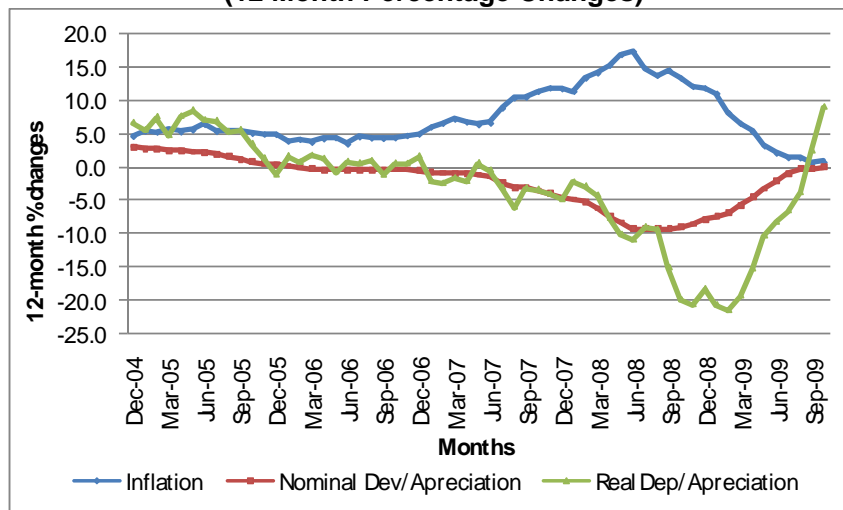
Exchange rate policy

As discussed above, the large increase in foreign incomes and the significant expansion of the monetary aggregates had brought about a rise in the inflation rate in 2007 and 2008. Besides the sterilization policy implemented in order to bring down inflation, the Central Bank applied a policy of exchange rate appreciations. The Boliviano was appreciated vis-a-vis the US Dollar at an annual rate that in July 2008 was of 9.8% (Figure 25). A high inflation rate and the nominal appreciation of the exchange rate caused a real exchange rate appreciation that in February 2009 was running at an annual rate of 21.5%.

In the second half of 2008 and during 2009 inflationary pressures reduced sharply, as the monetary aggregates stopped growing at the high rates they were previously doing. Thus, the Central Bank discontinued its policy of exchange rate appreciations and pegged the exchange rate

at a rate of Bs. 7.07 per US Dollar. By October 2009, the real exchange rate exhibited a 12 month depreciation rate of 9.0%.

Figure 25
Inflation and Nominal and Real Exchange Rate
Appreciation/Depreciation
(12 Month Percentage Changes)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: <http://www.bcb.gov.bo/index.php?q=estadisticas/semanales>

Lower inflation has reduced the rate of real exchange rate appreciation but the exchange rate continues to be appreciated when compared with the level it had back in 2006. In February 2009, the Weighted Multilateral Real Exchange Rate (WMRER) was at a level 24% lower than that of 2007 (Figure 26). However, between February and October 2009, the real exchange rate depreciated by 13.5% due to lower inflation and the cease of nominal appreciations.

Figure 26
Weighted Multilateral Real Exchange Rate
(Index, Base year = 2000)



Source: Own calculations based on data published in the Central Bank of Bolivia's website: <http://www.bcb.gov.bo/index.php?q=estadisticas/semanales>

Exchange rate appreciation/depreciation has not been the same vis-a-vis the different trading regions of the country. Table 3 shows that, overall Bolivia has lost exchange rate competitiveness vis-a-vis its trading partners because the country has experienced a real exchange rate appreciation of 15.5% between December 2004 and September 2009. However, in the second and third quarter of 2009 the real exchange rate depreciated by 10.5%. At present, the real exchange rate in Bolivian continues to be appreciated by 15.5% vis-a-vis the levels existing in 2006. The degree of appreciation/depreciation when compared to the 2006 real exchange rate levels, have been different for each of Bolivia's trading partner regions i.e. the Andean Community (CAN), NAFTA, European Union, Asia-Pacific countries and Chile. The exchange rate continues to be appreciated when compared to regions such as CAN, NAFTA, European Union, and Asia/Pacific countries where the Bolivia exports products from labour intensive sectors such as agro-industry, manufacturing and mining, the latter in the case of small scale mining businesses. Conversely, the country has not experiences an exchange-rate depreciation nor appreciation with Mercosur, where exports are basically concentrated in hydrocarbons.

Table 3
Real Exchange Rate Appreciation/Depreciation
by Trading Region
(Percentage change)

	Dec-04 Mar-09	Mar-09 Sep-09	Dec-04 Sep-09	Main Exported Product
Multilateral	-23.5	10.5	-15.5	
Mercosur	-15.5	18.5	0.1	Hydrocarbons
CAN	-24.2	17.6	-10.8	Agro-industry
NAFTA	-30.0	2.2	-28.4	Manufactures
UE	-36.5	10.8	-29.7	Mining
Asia/Pacific	-25.3	7.4	-19.8	Mining
Chile	-25.7	5.5	-21.7	
Venezuela	29.4	14.1	47.7	Agro-industry

Source: Central Bank of Bolivia

4.2 Social policies to respond to the impact of the crisis

The larger availability of resources from the hydrocarbon rent has allowed the government to create a number of bonuses and transfers to the population as a means of sustaining aggregate demand and activity and alleviating poverty. For instance, three types of bonuses were created between 2006 and 2009 as a means of transferring resources to the poorest segment of the population. The fiscal cost of these benefits amount to US\$ 363.9 million (2.27% of GDP) and comprises: i. Renta Dignidad, a transfer to the elder people totalling US\$ 267.2 million (1.7% of GDP); ii. Bono Juancito Pinto, a transfer to school children totalling US\$ 27.7 million (0.2% of GDP) and iii. Bono Juana Azurduy, a transfer to pregnant women totalling US\$ 69 million (0.22% of GDP). This policy has had a positive impact not only in terms of alleviating poverty, but also in terms of offsetting the recessionary effects of the GFC on activity, consumption and aggregate demand.

However, the long term sustainability of this policy however may be questionable because of the reduced investment levels in the hydrocarbons sector and price volatility. The payment of these benefits substantially depends on the hydrocarbon rent. Thus, the reduced investment flows observed in the hydrocarbons sector and a potential reduction in the international prices of natural

gas exports could bring about a substantial reduction in government revenues and thus put at risk the sustainability of the bonus payments.

Furthermore, transfers cannot be considered substitutes to incomes generated out of productive jobs. The government has not taken policies aimed at creating jobs that are sustainable in the long term. Among such job-creating policies are related to the creation of a more favourable investment climate, which will promote private investment, and a focus on labour-intensive export products and the opening up of larger foreign markets for Bolivian labour-intensive manufacturing exports.

4.3 Economic-wide and sectoral structural policies for getting the country out of the crisis

Despite these positive macroeconomic indicators, there are some risks that could jeopardize Bolivia's economic prospect in the coming years, not only as a consequence of the financial crisis, but also as a result of much deeper structural factors. For instance, the Bolivian economy has absorbed in recent months a significant real exchange appreciation. By September 2009, the yearly rate of real exchange appreciation was 8.2%. The Central Bank has pegged the exchange rate, while other commercial partners have devalued their exchange rates.

Moreover, GDP growth has slowed down, not only because of the global financial crisis but also as a result of reduced levels of investment in key activity sectors, such as hydrocarbons, mining and manufacturing. Radical changes in the regulatory framework have discouraged private investors to undertake badly needed investments in the hydrocarbon sector, which in turn has not permitted to expand hydrocarbon reserves and exports. Lower production capacity in the hydrocarbon sector is likely to undermine the middle- and long-term sustainability of the macroeconomic equilibriums.

Besides, the loss of the preferential access to US market for manufacturing products Bolivia benefited from under the Andean Trade Promotion and Drug Eradication Act (ATPDEA) has caused export and job losses. Low investment rates are likely to undermine growth and employment creation in the middle to long term. As discussed above, the Bolivian economy has exhibited in recent years a greater capacity to undertake countercyclical policies in order to reduce the negative effects of the global financial crisis. The larger availability of resources from the hydrocarbon rent has allowed the government to create a number of bonuses and transfers to the population as a means of sustaining aggregate demand and activity and alleviating poverty. The long term sustainability of this policy however may be questionable because of the reduced investment levels in the hydrocarbons sector and price volatility. The payment of these benefits substantially depends on the hydrocarbon rent. Thus, the reduced investment flows observed in the hydrocarbons sector and a potential reduction in the international prices of natural gas exports could bring about a substantial reduction in government revenues and thus put at risk the sustainability of the bonus payments.

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Bolivia has substantially changed its hydrocarbon policy in recent years. First, it has changed the former tax system based on net incomes with a system which is based on gross income. Besides, the government has nationalized the hydrocarbon sector industry, transferring to the Bolivian State

the ownership of hydrocarbons reserves. Oil companies are still in charge of production but contractually operate as providers of services. These policies have substantially increased government revenues in the short term, but have also brought about a sharp reduction of investment flows, output and export capacity.

The government is trying very hard to give new breath to State owned oil enterprise YPFB. In 2009, YPFB has obtained a long-term credit from the Central Bank amounting US\$ 1 billion, who has resorted to its foreign exchange reserves in order to finance this credit. YPFB will use these funds in drilling activities, in order to expand reserves and export capacity. There are however, considerable risks involved in this initiative. Oil wheel drilling activities are very expensive and entail considerable non-success risks. Furthermore, YPFB lacks the necessary technical capacity to undertake large scale drilling operations, not only in terms of qualified staff, but also in terms of technological endowment.

Furthermore, the Central Bank institutional autonomy has been undermined by this policy, since, by law, the Central bank could not carry out lending operations to the Government, in order to avoid a policy that in the past has created considerable macroeconomic disequilibria.

5. Conclusions

5.1 The impact of the crisis: an update

The GFC has had a negative effect on the Bolivian economy. The outbreak of the GFC has caused a drop in export commodity prices such as mining and hydrocarbons, and a reduction in remittances. Bolivia however, was in a relatively good position to deal with the negative effects of the GFC. The country has experienced in recent years an important commodity price boom, which has significantly increased external revenues, public and private incomes and consumption levels. In the pre-crisis years, this export commodity boom had permitted the country to reverse chronic fiscal and external deficits, and accumulate large amounts of foreign exchange reserves

With the outbreak of the GFC export revenues fell, but they are still at historically high levels. So far, the GFC has had mild effects on the Bolivian economy. The boom occurred in previous years, has furnished the public sector with an enhanced capacity to undertake counter-cyclical policies to ameliorate the negative effects of the GFC. For instance, three types of bonuses were created as a means of transferring resources to the poorest segment of the population. This policy has had a positive impact not only in terms of alleviating poverty, but also in terms of offsetting the recessionary effects of the GFC on activity, consumption and aggregate demand.

5.2 Looking ahead: how well is the country positioned to gain from a future recovery and grow sustainably?

Although the GFC has had a mild effect on the Bolivian economy so far, there are important structural factors that could put at risk the long term sustainability of policies and macroeconomic equilibriums:

First, investment rates, especially private investment rates, continue to be at very low levels. Thus, future growth prospects and employment creation would be undermined.

Second, the long term sustainability of fiscal equilibrium and fiscal policies has become very much dependent on the hydrocarbon rent. Due to low investment rates in the sector, hydrocarbon

reserves and production and thus fiscal revenues are bound to go down in the future, putting into jeopardy fiscal sustainability..

Third, low investment rates are putting at risk the future growth capacity of the economy and its capacity to create jobs. A more favourable investment climate is crucial for the country to increase investment rates, not only in the hydrocarbons sector, but in all sectors of the economy. Bolivia needs FDI as a means to obtain capital and technology necessities not only to exploit its abundant natural resources, but also to promote growth in all sectors of the economy. A favourable investment climate will require, among other factors, the rule of law, property rights, judicial security, clearer and more stable rules of the game, macroeconomic stability, etc.

Furthermore, a much clearer strategy in relation to the country external insertion is also necessary. Access to larger markets, with higher incomes and purchasing power, is necessary to promote sustainable growth and employment creation, and to reduce the vulnerability of the Bolivian economy to shocks. Trade agreements with the USA, European Union and other regions of the world are necessary to promote investment, growth and employment creation.

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